

## 1998–2000 Ozone and 1999–2000 Carbon Monoxide Air Quality Data Update

The following is a brief summary of EPA's 2000 air quality update for ozone and carbon monoxide nonattainment areas.

**Ozone (O<sub>3</sub>):** Today's list updates ozone air quality monitoring data for the three year period, 1998–2000. During this current three year period,

- 30 of the original 98 areas designated nonattainment for the 1-hour O<sub>3</sub> National Ambient Air Quality Standard (NAAQS) in 1991 failed to meet the NAAQS in 1998–2000 (Table 1).
- 6 additional counties failed to meet the 1-hour O<sub>3</sub> NAAQS in 1998–2000 (Table 2).
- 329 counties have average annual 4th maximum 8-hour daily maximum O<sub>3</sub> concentrations in 1998–2000 greater than the level of the 8-hour O<sub>3</sub> NAAQS (Table 3).

EPA set the 1-hour O<sub>3</sub> standard at 0.12 parts per million (ppm) daily maximum 1-hour average concentration not to be exceeded more than once per year on average. Compliance with the 1-hour ozone standard is judged on the basis of the most recent three years of ambient air quality monitoring data. The 1-hour ozone standard is not met at a monitoring site if the average number of estimated exceedances of the ozone standard is greater than 1.0 (1.05 rounds up). The level of the 8-hour O<sub>3</sub> NAAQS is 0.08 ppm<sup>1</sup>. The 8-hour O<sub>3</sub> standard is not met if the 3-year average of the annual 4th highest daily maximum 8-hour O<sub>3</sub> concentration is greater than 0.08 ppm (0.085 rounds up).

**Carbon Monoxide (CO):** Today's list updates CO air quality data for the two year period, 1999–2000. During this two year period,

- 2 of the original 42 areas designated nonattainment for the 8-hour CO NAAQS in 1991 failed to meet the CO NAAQS in 1998–99 (Table 4).
- 1 additional areas failed to meet the CO NAAQS in 1998–99 (Table 4).

EPA's National Ambient Air Quality Standard for carbon monoxide is 9 parts per million (ppm) non-overlapping 8-hour average concentration not to be exceeded more than once per year. The CO standard is not met at a monitoring site if there are two or more exceedances of the level of the CO NAAQS in either of the two most recent calendar years of monitoring data.

### *Notes:*

<sup>1</sup> In 1997, EPA revised the national ambient air quality standards for ozone. The standards were challenged by several business and state groups who claimed that EPA misinterpreted the Clean Air Act to give itself unlimited discretion to set air standards. On February 27, 2001, the U.S. Supreme Court unanimously upheld the constitutionality of the Clean Air Act as EPA had interpreted it in setting those health-protective air quality standards. The Supreme Court also reaffirmed EPA's long-standing interpretation that it must set those standards based solely on public health considerations with consideration of costs. The case is now back in the U.S. Court of Appeals to decide issues not addressed in their initial opinion. Updates on this action can be found at <http://www.epa.gov/airlinks>.

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**Table 1. Areas designated nonattainment in 1991 <sup>(1)</sup> that fail to meet 1-hr ozone NAAQS in 1998–00**

State	Designated Area	O <sub>3</sub> Design Value <sup>(2)</sup> (ppm)	Avg. Expected Exceedance Rate <sup>(3)</sup>
		1998-2000	1998-2000
GA	Atlanta	0.157	10.6
MD	Baltimore	0.145	2.5
LA	Baton Rouge	0.135	2.1
AL	Birmingham	0.137	2.4
NC	Charlotte-Gastonia <sup>(4)</sup>	0.132	2.0
TX	Dallas-Fort Worth	0.131	1.3
CT	Greater Connecticut	0.145	2.0
TX	Houston-Galveston-Brazoria	0.199	10.2
WV	Huntington-Ashland <sup>(4)</sup>	0.127	2.0
IL	Jersey Co. <sup>(4)</sup>	0.125	1.3
MD	Kent County and Queen Anne's Co.	0.128	1.7
TN	Knoxville <sup>(4)</sup>	0.138	4.0
LA	Lake Charles <sup>(4)</sup>	0.127	1.7
CA	Los Angeles South Coast Air Basin	0.211	35.4
TN	Memphis <sup>(4)</sup>	0.128	2.0
WI	Milwaukee-Racine	0.126	1.3
TN	Nashville <sup>(4)</sup>	0.126	1.4
NY	New York-N. New Jersey-Long Island, NY-NJ-CT	0.140	2.7
PA	Philadelphia-Wilmington-Trenton, PA-NJ-DE-MD	0.147	3.0
NC	Raleigh-Durham <sup>(4)</sup>	0.127	1.4
VA	Richmond -Petersburg <sup>(4)</sup>	0.127	2.0
CA	Sacramento Metro	0.148	5.3
CA	San Diego	0.131	2.7
CA	San Francisco-Bay	0.139	3.4
CA	San Joaquin Valley	0.161	13.1
WI	Sheboygan <sup>(4)</sup>	0.130	1.3
CA	Southeast Desert Modified AQMD	0.164	7.4
MO	St. Louis	0.127	2.0
CA	Ventura Co	0.132	2.3
DC	Washington, DC	0.128	2.7

**Notes:**

1. Designations and classifications for ozone nonattainment areas as published in the Federal Register, 40 CFR Part 81. *Unclassified and transitional nonattainment areas are not included in Table 1.*
2. The updated air quality design value is estimated for the 1998-2000 period using all air quality data reported to EPA's Aerometric Information Retrieval System (AIRS). The computation procedures follow EPA guidance for calculating design values (Laxton Memorandum, June 18, 1990). For sites with three complete years of monitoring data, the air quality design value is the fourth highest daily maximum 1-hour ozone concentration, because the standard allows one exceedance per year on average. It is important to note that the 1990 Clean Air Act Amendments required that nonattainment areas be classified on the basis of the design value at the time the Amendments were passed, generally the 1987-89 period was used.
3. The level of the 1-hour ozone Ambient Air Quality standard is 0.12 parts per million (ppm) daily maximum 1-hour average concentration not to be exceeded more than once per year on average. The average estimated number of exceedances column shows the number of days the 0.12 ppm 1-hour ozone standard was exceeded on average at the site recording the highest updated air quality value. This computation is performed after adjustment for any missing sampling days during the 3-year period, 1998-2000.
4. Areas presently designated attainment for the 1-hour ozone NAAQS that fail to meet the standard in 1998-2000.
5. Areas to be reinstated to nonattainment for the 1-hour NAAQS that fail to meet the standard in 1998-2000.
6. At the publication date for this update, air quality data for Poughkeepsie, NY are still under review and evaluation. Currently, it is unclear whether or not these areas violate the 1-hour ozone NAAQS. When a final determination is made, this table will be updated.

**Table 2. Additional counties failing to meet the 1-hour ozone NAAQS in 1998–00**

State	County (Area)	O <sub>3</sub> Design Value <sup>(1)</sup> (ppm)	Avg. Expected Exceedance Rate <sup>(2)</sup>
		1998-2000	1998-2000
CA	Amador Co. <sup>(4)</sup> (adjacent to Sacramento)	0.126	1.5
CA	Imperial Co. <sup>(3)</sup> (Calexico, CA)	0.166	5.7
GA	Bibb Co. <sup>(4)</sup> (Macon, GA)	0.134	3.6
TN	Hamilton Co. <sup>(4)</sup> (Chattanooga, TN-GA)	0.127	1.4
TX	Ellis Co. <sup>(4)</sup> (Dallas-Fort Worth, TX)	0.128	1.4
TX	Gregg Co. <sup>(4)</sup> (Longview-Marshall)	0.134	3.7

**Notes:**

1. The updated air quality design value is estimated for the 1998-2000 period using all air quality data reported to EPA's Aerometric Information Retrieval System (AIRS). The computation procedures follow EPA guidance for calculating design values (Laxton Memorandum, June 18, 1990). For sites with three complete years of monitoring data, the air quality design value is the fourth highest daily maximum 1-hour ozone concentration, because the standard allows one exceedance per year on average. It is important to note that the 1990 Clean Air Act Amendments required that nonattainment areas be classified on the basis of the design value at the time the Amendments were passed, generally the 1987-89 period was used.
2. The level of the 1-hour ozone Ambient Air Quality standard is 0.12 parts per million (ppm) daily maximum 1-hour average concentration not to be exceeded more than once per year on average. The average estimated number of exceedances column shows the number of days the 0.12 ppm 1-hour ozone standard was exceeded on average at the site recording the highest updated air quality value. This computation is performed after adjustment for any missing sampling days during the 3-year period, 1998-2000.
3. Section 185a nonattainment area that fails to meet the standard in 1998-2000.
4. Areas presently designated attainment for the 1-hour ozone NAAQS that fail to meet the standard in 1997-99.

**Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1998–00**

<b>State</b>	<b>County</b>	<b>Design Value (ppb)</b>
Alabama		
	Clay Co	88
	Jefferson Co	94
	Lawrence Co	86
	Madison Co	91
	Mobile Co	90
	Montgomery Co	90
	Shelby Co	102
Arizona		
	Maricopa Co	87
Arkansas		
	Crittenden Co	90
	Pulaski Co	87
California		
	Alameda Co	86
	Amador Co	99
	Calaveras Co	100
	El Dorado Co	107
	Fresno Co	111
	Imperial Co	89
	Kern Co	111
	Kings Co	102
	Los Angeles Co	115
	Madera Co	90
	Mariposa Co	94
	Merced Co	106
	Nevada Co	95
	Placer Co	102
	Riverside Co	114
	Sacramento Co	105
	San Bernardino Co	146
	San Diego Co	100
	San Joaquin Co	88
	Shasta Co	93
	Solano Co	85
	Stanislaus Co	96
	Sutter Co	89
	Tehama Co	91
	Tulare Co	102
	Tuolumne Co	96
	Ventura Co	105
	Yolo Co	85
Colorado		
	Jefferson Co	86

**Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1997–99**

<b>State</b>	<b>County</b>	<b>Design Value (ppb)</b>	
Connecticut			
	Fairfield Co	96	
	Litchfield Co	93	
	Middlesex Co	95	
	New Haven Co	96	
	New London Co	87	
	Tolland Co	89	
Delaware			
	Kent Co	97	
	New Castle Co	97	
	Sussex Co	98	
Dist. Columbia			
	Washington	96	
Florida			
	Escambia Co	94	
	Hillsborough Co	86	
	Pinellas Co	85	
Georgia			
	Bibb Co	105	
	Dawson Co	89	
	De Kalb Co	110	
	Douglas Co	104	
	Fayette Co	108	
	Fulton Co	121	
	Gwinnett Co	104	
	Muscogee Co	93	
	Paulding Co	98	
	Richmond Co	93	
	Rockdale Co	111	
	Sumter Co	85	
	Illinois	Cook Co	86
Illinois			
	Jersey Co	91	
	Madison Co	86	
Indiana			
	Allen Co	90	
	Clark Co	92	
	Floyd Co	90	
	Hamilton Co	95	
	Hancock Co	91	
	Johnson Co	89	
	Lake Co	88	
	La Porte Co	86	
	Madison Co	90	
	Marion Co	91	
	Morgan Co	90	

**Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1997–99**

<b>State</b>	<b>County</b>	<b>Design Value (ppb)</b>
Kentucky	Perry Co	94
	Porter Co	91
	Posey Co	91
	St. Joseph Co	86
	Vanderburgh Co	90
	Warrick Co	89
Kentucky	Bell Co	86
	Boone Co	86
	Bullitt Co	88
	Carter Co	89
	Christian Co	86
	Edmonson Co	94
	Fayette Co	85
	Graves Co	88
	Greenup Co	90
	Hancock Co	89
	Henderson Co	85
	Jefferson Co	94
	Kenton Co	89
	Livingston Co	90
	McCracken Co	89
	McLean Co	89
	Oldham Co	96
	Pulaski Co	88
	Simpson Co	90
Louisiana		
	Ascension Par	91
	Bossier Par	91
	Caddo Par	88
	Calcasieu Par	88
	East Baton Rouge Par	96
	Iberville Par	88
	Jefferson Par	90
	Lafayette Par	85
	Lafourche Par	87
	Livingston Par	91
	St. Charles Par	87
	St. James Par	85
	St. John The Baptist Pa	87
	St. Mary Par	86
	West Baton Rouge Par	88
Maine		
	Hancock Co	87

**Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1997–99**

<b>State</b>	<b>County</b>	<b>Design Value (ppb)</b>
Maryland		
	Anne Arundel Co	107
	Baltimore Co	93
	Calvert Co	91
	Carroll Co	94
	Cecil Co	106
	Charles Co	101
	Frederick Co	92
	Harford Co	100
	Kent Co	101
	Montgomery Co	90
	Prince George's Co	99
Massachusetts		
	Barnstable Co	89
	Bristol Co	87
	Essex Co	86
	Hampden Co	86
	Hampshire Co	87
	Middlesex Co	85
	Worcester Co	88
Michigan		
	Allegan Co	89
	Benzie Co	89
	Berrien Co	88
	Cass Co	88
	Genesee Co	86
	Macomb Co	89
	Mason Co	89
	Muskegon Co	91
	St. Clair Co	87
	Wayne Co	88
Mississippi		
	Adams Co	85
	De Soto Co	91
	Hancock Co	89
	Jackson Co	92
	Lee Co	88
Missouri		
	Cedar Co	88
	Clay Co	89
	Jefferson Co	91
	Platte Co	85
	St. Charles Co	94
	Ste. Genevieve Co	90
	St. Louis Co	90



**Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1997–99**

<b>State</b>	<b>County</b>	<b>Design Value (ppb)</b>
Nevada		
	Clark Co	85
New Jersey		
	Atlantic Co	90
	Camden Co	101
	Cumberland Co	96
	Gloucester Co	102
	Hudson Co	92
	Hunterdon Co	98
	Mercer Co	102
	Middlesex Co	101
	Monmouth Co	95
	Morris Co	96
	Ocean Co	107
	Passaic Co	89
New York		
	Chautauqua Co	88
	Dutchess Co	87
	Erie Co	89
	Niagara Co	85
	Orange Co	86
	Putnam Co	89
	Queens Co	88
	Richmond Co	96
	Suffolk Co	94
	Westchester Co	92
North Carolina		
	Alexander Co	89
	Buncombe Co	88
	Caldwell Co	92
	Caswell Co	93
	Chatham Co	85
	Cumberland Co	93
	Davie Co	98
	Duplin Co	86
	Durham Co	91
	Edgecombe Co	89
	Forsyth Co	96
	Franklin Co	90
	Granville Co	89
	Guilford Co	94
	Haywood Co	94
	Johnston Co	91
	Lenoir Co	87
	Lincoln Co	90
	Mecklenburg Co	104
	Person Co	91

**Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1997–99**

<b>State</b>	<b>County</b>	<b>Design Value (ppb)</b>
Ohio	Pitt Co	88
	Rowan Co	100
	Wake Co	98
Ohio	Allen Co	89
	Ashtabula Co	89
	Butler Co	90
	Clark Co	93
	Clermont Co	94
	Clinton Co	99
	Cuyahoga Co	86
	Delaware Co	95
	Franklin Co	89
	Geauga Co	89
	Greene Co	89
	Hamilton Co	87
	Knox Co	91
	Lake Co	95
	Lawrence Co	92
	Licking Co	92
	Madison Co	93
	Medina Co	86
	Miami Co	87
	Montgomery Co	90
	Portage Co	93
	Stark Co	91
	Summit Co	92
	Trumbull Co	91
	Warren Co	92
	Washington Co	90
Oklahoma		
	Tulsa Co	93
Pennsylvania		
	Allegheny Co	96
	Armstrong Co	93
	Beaver Co	90
	Berks Co	92
	Blair Co	89
	Bucks Co	102
	Cambria Co	91
	Clearfield Co	87
	Dauphin Co	93
	Delaware Co	96
	Erie Co	90
	Franklin Co	95
	Greene Co	96
	Lackawanna Co	87

**Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1997–99**

<b>State</b>	<b>County</b>	<b>Design Value (ppb)</b>
Rhode Island	Lancaster Co	97
	Lehigh Co	97
	Mercer Co	92
	Montgomery Co	102
	Northampton Co	95
	Perry Co	85
	Philadelphia Co	89
	Washington Co	94
	York Co	93
South Carolina	Kent Co	88
	Washington Co	85
	Abbeville Co	88
Tennessee	Aiken Co	91
	Anderson Co	95
	Barnwell Co	90
	Cherokee Co	92
	Chester Co	88
	Darlington Co	89
	Edgefield Co	85
	Oconee Co	87
	Pickens Co	90
	Richland Co	96
	Spartanburg Co	95
	York Co	85
	Anderson Co	91
	Blount Co	104
	Davidson Co	91
	Hamilton Co	97
	Haywood Co	92
	Jefferson Co	101
	Knox Co	102
	Lawrence Co	89
	Putnam Co	91
	Rutherford Co	89
	Sevier Co	102
	Shelby Co	97
	Sullivan Co	94
	Sumner Co	100
	Williamson Co	93
	Wilson Co	89

**Table 3. Counties failing to meet the 8-hr ozone NAAQS, 1997–99**

<b>State</b>	<b>County</b>	<b>Design Value (ppb)</b>
Texas		
	Bexar Co	85
	Brazoria Co	93
	Collin Co	101
	Dallas Co	93
	Denton Co	102
	Ellis Co	97
	Galveston Co	106
	Gregg Co	102
	Harris Co	112
	Jefferson Co	87
	Marion Co	88
	Smith Co	91
	Tarrant Co	99
	Travis Co	88
Virginia		
	Arlington Co	92
	Caroline Co	88
	Charles City Co	88
	Chesterfield Co	87
	Fairfax Co	97
	Fauquier Co	86
	Frederick Co	87
	Henrico Co	91
	Loudoun Co	89
	Madison Co	93
	Prince William Co	88
	Roanoke Co	89
	Stafford Co	87
	Alexandria city	89
	Hampton city	89
	Suffolk city	87
West Virginia		
	Cabell Co	94
	Greenbrier Co	89
	Wood Co	92
Wisconsin		
	Door Co	92
	Jefferson Co	85
	Kenosha Co	93
	Kewaunee Co	89
	Manitowoc Co	92
	Milwaukee Co	89
	Ozaukee Co	92
	Racine Co	85
	Rock Co	86
	Sheboygan Co	92

***Notes:***

The level of the 8-hour ozone ( $O_3$ ) National Ambient Air Quality Standard (NAAQS) is 0.08 parts per million (ppm). The air quality design value for the 8-hour  $O_3$  NAAQS is the 3-year average of the annual 4th highest daily maximum 8-hour average  $O_3$  concentration.<sup>3</sup> The 8-hour  $O_3$  NAAQS is not met when the 8-hour ozone design value is greater than 0.08<sup>3</sup> ppm (85 ppb rounds up).

In 1997, EPA revised the national ambient air quality standards for ozone. The standards were challenged by several business and state groups who claimed that EPA misinterpreted the Clean Air Act to give itself unlimited discretion to set air standards. On February 27, 2001, the U.S. Supreme Court unanimously upheld the constitutionality of the Clean Air Act as EPA had interpreted it in setting those health-protective air quality standards. The Supreme Court also reaffirmed EPA's long-standing interpretation that it must set those standards based solely on public health considerations with consideration of costs. The case is now back in the U.S. Court of Appeals to decide issues not addressed in their initial opinion. Updates on this action can be found at <http://www.epa.gov/airlinks>.

For additional information on air quality data relative to the 8-hour ozone NAAQS, refer to <http://www.epa.gov/ttn/rto/areas/aqdata.htm>

**Table 4. Areas not meeting the 8-hour Carbon Monoxide National Ambient Air Quality Standard, 1999–2000**

Metropolitan Area	1999-2000 Design Value <sup>(1)</sup> (ppm)	1999		2000	
		2 <sup>nd</sup> Max <sup>(2)</sup>	# Exc <sup>(3)</sup>	2nd Max <sup>(2)</sup>	# Exc <sup>(3)</sup>
Designated CO nonattainment areas					
Fairbanks, AK	10.3	10.3	2	8.9	1
Los Angeles-Long Beach, CA	11.1	11.1	8	9.9	2
Additional areas					
Calexico, CA	14.4	14.4	13	9.6	2
Number of areas not meeting the NAAQS	3		3		2

**Notes:**

1. The level of the 8-hour National Ambient Air Quality Standard for carbon monoxide is 9 parts per million (ppm) not to be exceeded more than once per year. The design value for the 8-hour CO NAAQS is the highest annual second maximum non-overlapping 8-hour concentration during the most recent two years.
2. Annual second highest non-overlapping 8-hour average CO concentration.
3. Number of non-overlapping exceedances of the 8-hour CO NAAQS.

Source: U.S. EPA's Aerometric Information Retrieval System (AIRS)